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(12) United States Patent
DePaoli et al.**(10) Patent No.: US 7,183,254 B2**
(45) Date of Patent: Feb. 27, 2007**(54) USE OF LEPTIN FOR TREATING HUMAN LIPOATROPHY AND METHOD OF DETERMINING PREDISPOSITION TO SAID TREATMENT****(75) Inventors:** Alexander M. DePaoli, Santa Barbara, CA (US); Simeon I. Taylor, Skillman, NJ (US); Elif A. Oral, Ann Arbor, MI (US); Abhimanyu Garg, Dallas, TX (US)**(73) Assignee:** Amgen, Inc., Thousand Oaks, CA (US)**(*) Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 284 days.**(21) Appl. No.:** 10/623,189**(22) Filed:** Jul. 18, 2003**(65) Prior Publication Data**

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Related U.S. Application Data**(63)** Continuation of application No. 10/279,129, filed on Oct. 22, 2002, now abandoned.**(60)** Provisional application No. 60/336,394, filed on Oct. 22, 2001.**(51) Int. Cl.****A61K 38/00** (2006.01)**A61K 38/16** (2006.01)**C07K 14/00** (2006.01)**(52) U.S. Cl.** 514/12; 424/184.1; 424/198.1; 530/350**(58) Field of Classification Search** None
See application file for complete search history.**(56) References Cited****U.S. PATENT DOCUMENTS**

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(57) ABSTRACT

Leptin, leptin analogs, and leptin derivatives are used to treat patients with lipotrophy. Leptin is effective against conditions of lipotrophy for both genetic and acquired forms of the disease. A therapeutically effective amount of leptin can be administered in a variety of ways, including subcutaneously and using gene therapy methods. Methods of the present invention contemplate administration of leptin, leptin analogs, and leptin derivatives to patients having a leptin level of approximately 4 ng/ml or less before treatment.